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Past environmental changes in the South Caucasus according Armenia lakes and geomorphologic archives

Tatyana Sapelko[1], Vladimir Boynagryan[2], Mikhail Naumenko[1], Dmitry Sevastyanov[3], Ivan Gabrielyan[4], Artak Piloyan[2], Liana Margaryan[2], Mikhail Aleksandrin [5]
[1]Institute of Limnology RAS, St.Petersburg, Russian Federation. [2]Yerevan State University, Yerevan, Armenia. [3]St. Petersburg State University, St.Petersburg, Russian Federation. [4]Institute of Botany of NAS RA, Yerevan, Armenia. [5]Institute of Geography RAS, Moscow, Russian Federation

Abstract

Within the framework of the Russian-Armenian project “Paleolimnological aspect of study of ecosystem evolution of alpine Russian and Armenian lakes»” in July-August 2018, we investigated four high-mountain lakes of Armenia. The research was carried out in the lakes Kari, Umroy, Akna and Sev. All investigated lakes are located at the altitude about 3000 m above sea level. The lakes were first investigated using a multi-proxy method that includes paleolimnological, geomorphological, hydrological, geochemical and biogeographic studies. From all the lakes, sediment sequences were collected for pollen, diatom, geochemical and radiocarbon analyses. For all the lakes bathymetric maps and three-dimensional models of the lake kettles were constructed, as well as the geomorphological maps of the catchment basins. According to preliminary results, the maximum age of the lake formation is about 7 ka. The studies were carried out as a part of the RFBR project No. 18-55-05008 and Science Committee of the Ministry of Education and Science of the Republic of Armenia No. 18RF-045.